

the first two pair of legs, the forewings, a median spot on first to seventh abdominal terga which tends to widen until on eighth segment it nearly covers the entire tergum, and covers all of ninth and tenth segments. Pale yellow to white: tip of fourth antennal segment and all of fifth, eighth, and ninth, all tarsi, all of the hind legs and venter and portions of the sides of the terga of the abdomen except on segments nine and ten. Vivid red: subintegumental pigments of the first four antennal segments, ocellar pigments, extensive areas of the thorax, and traces in abdomen in the areas of the dark spots. This red often fades to orange in the thorax and in the abdomen.

Head as in fig. 1; outer fork of sense cone of fourth antennal segment extending only to a point midway of the fifth segment. Prothorax as in fig. 1. Metanotum sculptured as in fig. 2. Forewing with about 9 or 10 setae along the submarginal vein. Median portion of first abdominal segment weakly marked. Comb on eighth abdominal segment complete.

*Types*.—Holotype ♀, La Ceiba, Honduras, June 11, 1949, in light trap (E. C. Becker); 2 ♀ paratypes, same data as for holotype; 2 ♀ paratypes, same data as for holotype except May 21, 1949.

### SOME INTERESTING CHINESE SPECIES OF GLOSSOSOMA

(TRICHOPTERA, RHYACOPHILIDAE)<sup>1</sup>

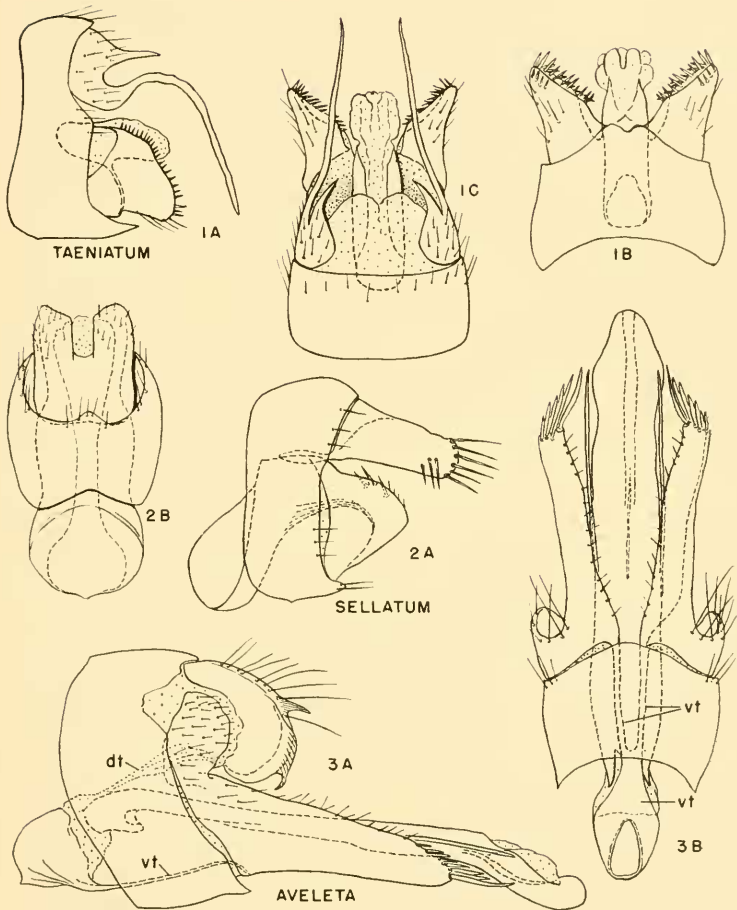
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Among some miscellaneous Chinese caddisfly material in the collections of the Chicago Natural History Museum and the United States National Museum were found specimens of three new species of *Glossosoma*, closely allied only to the Chinese species *minutum* Banks. All four are unusual in lacking specialized male characters which would place them in any of the known groups of the genus, and characterize the species as persistent forms of phyletic lines more primitive than any heretofore described. They may be related to the Tibetan subgenus *Lipoglossa* Martynov, but since we have not studied material of this genus no definite comparison with it can be made. We feel that until the relationship of these particular Chinese species to *Lipoglossa* can be made clear, it is better not to describe new subgenera to accommodate the Chinese forms, but rather simply to state that they represent the simplest known forms in the genus.

<sup>1</sup>This paper is a joint contribution from the Section of Faunistic Surveys and Insect Identification, Illinois Natural History Survey, and the Department of Entomology, University of Illinois.

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Male genitalia of *Glossosoma*. *A*, lateral aspect; *B*, ventral aspect; *C*, dorsal aspect; *dt*, dorsal tendon of aedeagus, *vt*, ventral tendon of aedeagus.

**Glossosoma taeniatum**, new species

Fig. 1

This species differs from other known members of the genus in the short claspers and aedeagus, and the long, ribbon-like ventral process of the tenth tergite plates.

*Male*.—Length 7 mm. Color dark brown, almost black, the legs and venter slightly lighter than the dorsum. Front wing with anal callosity large and only slightly thickened. Hind tibia with both apical spurs sharp and straight. Genitalia, fig. 1, with ninth segment annular, produced into a point beneath bases of claspers; lobes of tenth tergite well separated on meson, each lobe divided into a fairly long, pointed dorsal spike and an exceedingly long, ribbon-like ventral whip; clasper short, its edge armed with short, stout spines; aedeagus consisting of dorsal membranous portion situated chiefly within a ventral sclerotized shell which continues as a ventral strap joining the ninth sternite at the base of the claspers.

*Types*.—Holotype ♂, Tu-pa-keo, Szechuan, China, Sept. 7, 1929, 7400 ft. elev., H. Stevens; 2 ♂ paratypes, same data as for holotype. The holotype is in the collection of the Chicago Natural History Museum, paratypes are in the Illinois Natural History Survey and the Museum of Comparative Zoology.

**Glossosoma sellatum**, new species

Fig. 2

Most closely related to the above species, *sellatum* differs in the simple lobes of the tenth tergite and the curious saddle-like structure bearing the membranous part of the aedeagus.

*Male*.—Size, color and general structure similar to *taeniatum*. Male genitalia, fig. 2, with ninth segment almost evenly circular; lobes of tenth tergite simple, undivided, and rounded at tip; elaspers short, fused with each other at base and also with the ventral sclerotized part of the aedeagus, the whole forming a saddle-shaped structure on which rests the membranous portion of the aedeagus. Each clasper bears a row of stout setae just within the lateral margin, the posterior five setae large and peglike, the more anterior ones smaller and sharper. Membranous portion of aedeagus with a large swollen basal portion, a constricted middle part, and an apical portion consisting of a series of membranous folds.

*Type*.—Holotype ♂, Tu-pa-keo, Szechuan, China, Sept. 4, 1929, 7400 ft. elev., H. Stevens. In the collection of the Chicago Natural History Museum.

**Glossosoma aveleta**, new species

Fig. 3

This species resembles *minutum* most closely, especially in regard to

the long claspers and general shape of the tenth tergite. It differs from *minutum* in the division of the aedeagus into a basal cup and a freely-articulating, long, slender, sclerotized phallicata.

*Male*.—Size, color and general structure almost identical with *taeniatum*. Male genitalia, fig. 3, with ninth segment almost a perfect, regular ring; lobes of tenth tergite each with a short dorsal and ventral tooth on apical margin, otherwise rounded and simple; clasper elongate, with a high, basal shoulder fitting under the base of the tenth tergite lobe, and with the apex narrowed and armed with a row of long setae. Aedeagus with a cup-shaped base attached to base of claspers with a long, forked strap; apical portion and basal cup joined by a freely articulating area of membrane; phallicata elongate, sclerotized, enlarged slightly near apex, and bearing a pair of long, slender, lateral spines.

*Type*.—Holotype ♂, Szechuan, China, 13,000 ft. elev., July 9-12, D. C. Graham. In the collection of the U. S. National Museum.

## NOTES ON AMERICAN MANSONIA MOSQUITOES

(DIPTERA, CULICIDAE)

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Species of *Mansonia* include some of the most vicious, day-and-night-biting mosquitoes in the New World tropics. At least one species (*M. titillans*) has some medical importance. Gilyard (1945) has shown that it can transmit the virus of the Venezuelan strain of equine encephalitis and may have been an important vector in the Trinidad epidemic of this disease in 1942-1943. Kumm and Frobisher (1932) have shown that *titillans* can retain the virus of yellow fever after having fed on an infected patient, but in the laboratory is unable to transmit the virus to a new patient by biting. This same species is also known to be a vector of filariasis, according to Belding (1942). It is not improbable that other Neotropical species of *Mansonia* will be found to play a role in the transmission of disease, especially of filariasis in such hyperendemic areas as the Guianas. There these mosquitoes are very common and often as much as one-third of the native population has microfilariae in the peripheral blood.

The males of *Mansonia* subgenus *Mansonia* have been carefully studied and figured recently by Barretto and Coutinho (1944). Females, however, make up the majority of the specimens found in biting, light trap, and animal bait trap collections. Often such specimens are so badly rubbed that the colorational characters used in classification are difficult to see. Hence, any structural characters which will aid in identifying